Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT N. HUNT
and TERRY L. THIEM

Appeal No. 2002-0515
Application No. 09/222,092

ON BRIEF

Before OWENS, DELMENDO, and JEFFREY T. SMITH, ***Administrative Patent Judges***.

JEFFREY T. SMITH, ***Administrative Patent Judge.***

DECISION ON APPEAL

Applicants appeal the decision of the Primary Examiner finally rejecting claims 1 to 20.[1] We have jurisdiction under 35 U.S.C. § 134.

---

[1] According to the Examiner, Answer page 2, the subject matter of claim 21 is allowable. However, claim 21 is objected to as depending upon a rejected base claim.

BACKGROUND

The invention relates to an apparatus that uses ultraviolet fluorescence emitted from the binder to determine the binder dosage and distribution on a surface of a substrate. The apparatus comprises a UV light source, a filter or set of filters, a lens, a video camera and a means for correlating the ultraviolet fluorescence data collected from the sample. (Specification, p. 6). According to Appellants, the UV light source is positioned so that the ultraviolet light waves will contact a substrate to which the binder has been applied. The filter blocks all but the visible light waves emitted from the fluorescence of the binder. The lens images the light onto a focal plane. The video camera converts the visible light waves to an electronic signal. The apparatus also comprises a device capable of correlating the electronic signal to determine the binder dosage and distribution. (Brief, p. 2). Claim 1, which is representative of the claimed invention, appears below:

> 1. An apparatus for determining binder dosage and distribution during the production of composite materials comprising:
>
> a) a source of long wave ultraviolet light positioned so that ultraviolet waves emitted therefrom will come into contact with a composite-forming material to which binder has been applied,
>
> b) a filter which blocks ultraviolet waves emitted from the UV light source and reflected by the composite-forming material to which binder has been applied but allows visible light waves emitted by fluorescence of the binder to pass,

c) a lens for imaging visible light onto a focal plane,

d) a video camera positioned at the focal plane of the lens which converts the visible light waves that have passed through the filter and the lens into an electrical signal, and

e) a device capable of correlating images received by the video camera to binder dosage and distribution on the composite-forming material to which binder has been applied contacted by the ultraviolet waves emitted by the UV light source.

CITED PRIOR ART

As evidence of unpatentability, the Examiner relies on the following references:

Krueger et al. (Krueger)	4,415,516	Nov. 15 , 1983
Bolton et al. (Bolton)	4,824,209	Apr. 25, 1989
DeVries et al. (DeVries)	5,532,817	Jul. 2, 1996
Duclos et al. (Duclos)	5,818,577	Oct. 6, 1998
Barrera et al. (Barrera)	6,001,936	Dec. 14, 1999
Burchill	EP 0458474	Nov. 27, 1991

The Examiner has rejected claims 1, 2, 6, 7, 9, 11-15, 19 and 20 as unpatentable under 35 U.S.C. § 102(b) as anticipated by DeVries; claim 3 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and Bolton; claim 4 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and

Duclos; claims 5, 8, 10 and 18 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Burchill; and claims 16 and 17 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Barrera.[2] (Answer, pp. 3 to 9).

Appellants have indicated, Brief page 3, that for each ground of rejection the claims stand or fall together. Thus, for each ground of rejection, we will select a single claim as representative. See 37 CFR § 1.192(c)(7)(2001).

DISCUSSION

We have carefully reviewed the claims, specification and applied prior art, including all of the arguments advanced by both the Examiner and Appellants in support of their respective positions. This review leads us to conclude that the Examiner's §§ 102 and 103 rejections are well founded. We affirm primarily for the reasons advanced by the Examiner and add the following primarily for emphasis.

The Examiner has rejected claims 1, 2, 6, 7, 9, 11-15, 19 and 20 as unpatentable under 35 U.S.C. § 102(b) as anticipated by DeVries. We select claim 1 as representative of the rejected claims.

---

[2] The Examiner has withdrawn the rejection under 35 U.S.C. § 112, second paragraph, and the prior art rejection of claim 21. (Answer, p. 2).

The Examiner has found that DeVries discloses an apparatus that comprises a UV light source, a filter or set of filters, a lens, a camera and a means for correlating the ultraviolet fluorescence data collected from the sample. Specifically the Examiner states:

> In regard to claims 1, 2, 6, 7, 9, 11, and 12, DeVries *et al.* disclose an apparatus comprising:
>
> (a) a source (*e.g.*, a lamp) that illuminates with long wavelength ultraviolet light (*e.g.*, 365 nm) a composite-forming material whereby a binder (*i.e.*, resin) has been applied (column 7, lines 9-14);
>
> (b) a filter or filter system which removes the illumination ultraviolet light but allows the longer wavelength fluorescent light to pass (column 7, lines 11-31);
>
> (c) a lens (*i.e.*, stereoscope) for imaging (column 7, lines 15-18);
>
> (d) a camera (*e.g.*, a camera that produces color images) which detects the image formed by the lens (i.e., stereoscope) and generates an electrical signal (column 7, line 21; column 7, lines 50-63); and
>
> (e) a means to correlate recorded images to binder (*i.e.*, resin) dosage and distribution (column 7, line 50 to column 8, line 37).

(Answer, pp. 3-4).

Appellants in the Brief have not disputed that the apparatus of DeVries comprises the components identified by the Examiner. Rather Appellants argue that DeVries contains benzocyclobutene as a critical moiety of the binder and therefore the claimed invention is not anticipated by DeVries. (Brief, pp. 4-5).

We are not persuaded by Appellants' argument. Appellants' invention is directed to an apparatus. "[A]pparatus claims cover what a device *is*, not what a device *does*." ***Hewlett-Packard Co. v. Bausch & Lomb, Inc.***, 909 F.2d 1464, 1468, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Therefore, the patentability of an apparatus claim depends on the claimed structure, not on the use or purpose of that structure, ***Catalina Marketing Int'l Inc. v. Coolsavings.com Inc.***, 289 F.3d 801, 809, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002), or the function or result of that structure. ***In re Danly,*** 263 F.2d 844, 848, 120 USPQ 528, 531 (CCPA 1959); ***In re Gardiner,*** 171 F.2d 313, 315-16, 80 USPQ 99, 101 (CCPA 1948). When, as in the present case, the prior art structure possesses all the claimed characteristics including the capability of performing the claimed function, then there is a *prima facie* case of unpatentability. ***In re Ludtke,*** 441 F.2d 660, 663-64, 169 USPQ 563, 566-67 (CCPA 1971). In the instant case the binder is not a component of the claimed apparatus. Moreover, the apparatus of both DeVries and the claimed apparatus detect UV fluorescence emitted from the binder. The benzocyclobutene used in the binder of DeVries is inherently fluorescent thus eliminating the need for adding an additional fluorescent component. (Col. 1, ll. 64-68).

Appellants argue that the nature of the materials being detected by the DeVries apparatus is different from that being monitored by the claimed apparatus. (Brief, p. 5).

This argument is not persuasive because it is not directed to the apparatus. The apparatus of the claimed invention and DeVries both detect emitted fluorescence from a binder applied to a substrate.

Appellants argue that "Appellants' method is used to determine the ***distribution*** and ***dosage*** of the reactive binder. DeVries et al[.] does not employ a material which is reactive and dispersed throughout the sample being inspected. The teachings of DeVries et al[.] can not [sic., cannot] therefore be construed as disclosing any means for determining the dosage and distribution of a material such as the binder required in Appellants' invention." (Brief, p. 5).

We do not agree. DeVries discloses the invention is used to detect the emitted fluorescence from a coating that has been coated or coextruded on to a structure. DeVries discloses the apparatus can detect the presences, absences and thickness of the coated or coextruded layer. (Col. 6, ll. 25-41). Thus, DeVries discloses and apparatus and method of measuring the distribution of the coating on the substrate.

Appellants argue that "[n]one of the systems discussed by DeVries at columns 7 and 8, correlates binder dosage and distribution on particulate materials of the type used to produce composite materials with signals derived from a video image." (Brief, p. 6).

We are not persuaded by Appellants' argument. It is not disputed that DeVries uses a camera to record and detect the emitted fluorescence from the coating. DeVries uses a detector so that computer logic can be applied to pass or reject the part. (Col. 7, ll. 23 to 33). Appellants' argument focuses on the materials to which the binder has been applied. As stated above, DeVries discloses the apparatus can detect the presences, absences and thickness of the coated or coextruded layer. (Col. 6, ll. 25-41). Appellants have not established that the underlying substrate, i.e., particulate material, would affect the detection of the fluorescence emitted from a separate layer. Appellants have also not established that the apparatus of DeVries would not have been capable of detecting the fluorescence emitted from a binder applied to a particulate substrate.

Appellants' discussion, Brief page 7, of the specific UV light wavelengths disclosed in DeVries is noted however, the present invention does not exclude the use of specific wavelengths.

The Examiner rejected claim 3 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and Bolton. (Answer, p. 5-6). We affirm.

Appellants argue that "Bolton et al[.] does not teach or suggest anything with respect to correlating visible light to binder dosage or distribution. Nor does Bolton et al[.] teach that the disclosed light assembly would eliminate the need for the benzocyclobutene moiety

critical to the De DeVries et al[.] method." (Brief, p. 8). Appellants' argument is not directed to the Examiner's motivation for combining the teachings of DeVries and Bolton. Claim 3 further describes the source of the UV light as coming from 4 or more ultraviolet lamps. A person of ordinary skill in the art would have appreciated that the intensity of the light generated from the light source would increase proportionally with the number of ultraviolet lamps used. Appellants have not argued otherwise.

The Examiner rejected claim 4 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and Duclos. The Examiner asserts that the use of more filters in the apparatus of DeVries would have been obvious to a person of ordinary skill in the art. (Answer, p. 6). Appellants discussion of the Examiner's rejection, Brief, pages 8 to 9, does not address the suitability of using more than one filter in the apparatus of DeVries.

The Examiner rejected claims 5, 8, 10 and 18 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Burchill. (Answer, pp. 6-7). We select claim 5 as representative. The Examiner asserts that the arrangement of the filters and lens in the apparatus of DeVries would have been obvious to a person of ordinary skill in the art. A person of ordinary skill in the art would have recognized that filters function to block portions of the light and the lens functions to focus the light. The Appellants' discussion of

the Examiner's rejection, Brief, page 9, does not address the suitability of the various arrangement of the filters and lens as asserted by the Examiner.

The Examiner rejected claims 16 and 17 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Barrera. We select claim 16 as representative.

Appellants argue that Barrera does not indicate that the benzocyclobutene moiety of DeVries was unnecessary for the evaluation of a coating. (Brief, p. 10). The subject matter of claim 16 specifies the binder contains a polyisocyanate based material. According to the Examiner, Answer pages 8-9, Barrera provides evidence that polyisocyanate compounds are a source of measurable fluorescence. We agree with the Examiner's determination that it would have been obvious to a person of ordinary skill in the art to use polyisocyanate compounds in the method of DeVries as a source of detectable fluorescence. "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." ***In re Keller,*** 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

Based on our consideration of the totality of the record before us, having evaluated the ***prima facie*** case of obviousness in view of Appellants' arguments, we conclude that the

subject matter of claims 3-5, 8, 10 and 16-18 would have been obvious to a person of ordinary skill in the art from the combined teachings of the cited prior art for the reasons stated above and in the Answer.

CONCLUSION

The Examiner's rejections of claims 1, 2, 6, 7, 9, 11-15, 19 and 20 as unpatentable under 35 U.S.C. § 102(b) as anticipated by DeVries; claim 3 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and Bolton; claim 4 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of DeVries and Duclos; claims 5, 8, 10 and 18 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Burchill; and claims 16 and 17 as unpatentable under 35 U.S.C. § 103(a) as obvious over DeVries and Barrera are affirmed.

Time for taking action

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

TERRY J. OWENS
Administrative Patent Judge

ROMULO H. DELMENDO
Administrative Patent Judge

JEFFREY T. SMITH
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

JTS/kis

PATENT DEPARTMENT
BAYER CORPORATION
100 BAYER ROAD
PITTSBURGH, PA 15205-9741